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**A new species of the genus *Sphaeroma* (Crustacea, Isopoda)
from the mouth of the River Shimanto, Kochi, Shikoku, southern Japan***

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四国四万十川河口干潟で採集されたコツブムシの1新種

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高知県中村市の四万十川河口干潟で採集されたコツブムシを新種 *Sphaeroma shimantoensis* (和名: シマントコツブムシ (新称)) として記載した。本種は *Sphaeroma sieboldii* Dollfus ともっとも類似するが, (1) 尾肢外肢外縁に明瞭な歯状刻印を持たないこと, (2) 第1小顎外葉上に歯が多いこと (3) 大顎の可動葉片が小さいこと, (4) 大顎鬚第3節上の剛毛数が少ないこと, (5) 顎脚底節内葉の剛毛数が多いこと, (6) 腹部縫合線が不明瞭なこと, (7) 第1触角鞭数が少ないこと, (8) 第2触角鞭数が少ないこと, (9) 体中の剛毛が多いこと, (10) 第2-3 胸脚の前節外縁の剛毛が短いこと, (11) 体色が黒っぽいことで区別される。

キーワード: コツブムシ科, シマントコツブムシ, 新種, 四万十川, 干潟

Key words: Sphaeromatidae, *Sphaeroma shimantoensis*, new species, isopoda

During an ecological survey in the mouth of River Shimanto, Nakamura City, Kochi Prefecture, Shikoku, Southern Japan, Prof. Keiji Wada of the Nara Women's University and his colleague happened to find an unfamiliar sphaeromatid isopod and they were sent to me for identification through the courtesy of Prof. Keiji Wada's courtesy. At the results of my closer examination, they proved to represent a new species of the genus *Sphaeroma*.

Family Sphaeromatidae

***Sphaeroma shimantoensis*, n. sp.**

(Figs. 1 and 2)

Description: Body 2.0 times as long as wide. Color blackish. Body surface with many small tubercles. Arrangement of tubercles on the dorsal surface of pleotelson as Fig. 1B. Eyes mediocre in size, each eye composed of about 40 ommatidia. Two pairs of suture lines of pleonal somites visible in dorsal and lateral view. Posterior margin of pleotelson straight.

Antennula (Fig. 1C) composed of 3 peduncular and 8-9 flagellar segments. Antenna (Fig. 1D) longer than antennule, and composed of 5 peduncular and 10-12 flagellar segments. Clypeus (Fig. 1E) pentagonal. Mandible (Fig. 1F): pars incisiva single-toothed and strong; lacinia mobilis tiny, represented by a small process; 8-10 setae; processus molaris wide; palp 3-segmented and terminal segment with 18-22 setae at the tip. Maxillula (Fig. 1G): inner lobe with 4 plumose setae at the tip; outer lobe with 10-14 teeth and a relatively short setae, four of these with small denticles.

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Maxilla (Fig. 1H): inner lobe ellipsope, with 22-29 setae. Both rami of outer lobe also ellipsoid with 22-29 and 28-34, setae, respectively. Maxilliped (Fig. 1I): endite slender with about 30 setae on inner distal margin and about 20 setae on outer distal area; palpal segment 1 rectangular, palpal segments 2 and 3 stout; palpal segments 4-5 slender.

Pereopods 1-3 similar in shape. Pereopod 1 (Fig. 2A): basis 3.9 times as long as wide; ischium 1.2 times as long as basis, with many long setae on outer margin; merus 45 % as long as ischium, with a long seta near the inner distal angle, many long setae on outer margin and many round wart-like structures on the surface; carpus triangular, less than 1/3 as long as merus, with many round wart-like structures on the surface; propodus a little shorter than merus, with many hairs on the basal half on inner margin, 3 setae on distal half of inner margin, many setae on outer margin and many round wart-like structures on the surface; dactylus with a seta.

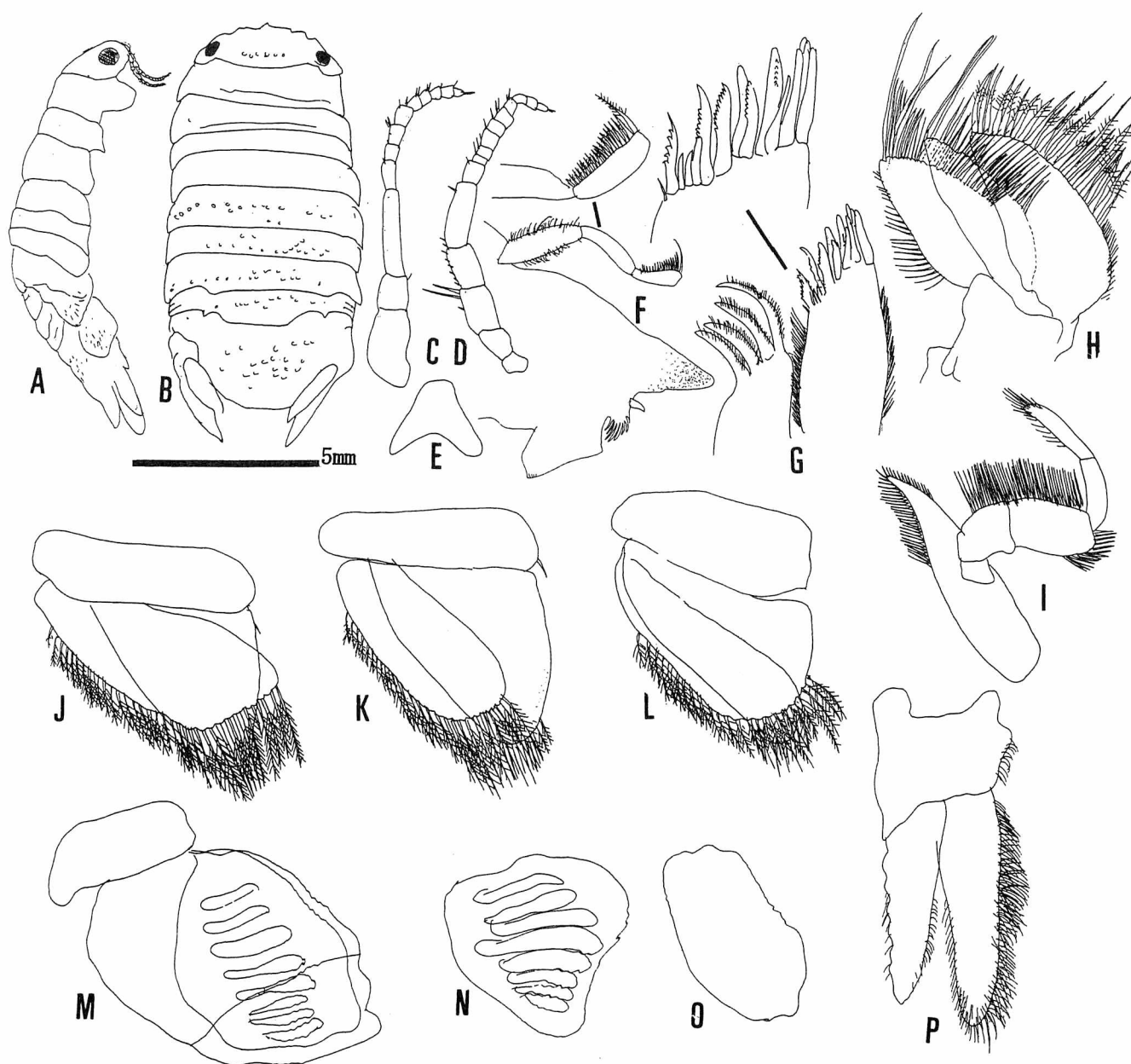


Fig. 1 *Sphaeroma shimantoensis* n. sp.

A: Lateral view; B: Dorsal view; C: Antennula; D: Antenna; E: Clypeus; F: Mandible; G: Maxillula; H: Maxilla; I: Maxilliped; J: Pleopod 1; K: Pleopod 2; L: Pleopod 3; M: Pleopod 4; N: Endopod of pleopod 5; O: Exopod of the same; P: Urpod (All: Holotype)

Pereopod 2 (Fig. 2B): basis 4.0 times as long as wide; ischium 1.25 times longer than basis, with many long setae on outer margin; merus 35% as long as ischium, with a long seta on inner margin and many long setae on outer margin; carpus a little shorter than merus, with many hair a long seta on inner margin many long seta on outer margin and 4 setae on outer distal angle; propodus 4/5 as long as carpus, with many hair on inner margin and 3 setae on distal angle; dactylus with a seta.

Pereopod 3 (Fig. 2C): basis 3.0 times as long as wide, with 4-5 long setae on outer margin; ischium 1.1 times longer than basis, with many long setae on outer margin; merus 30% as long as ischium, with 2 long setae on inner margin and many long setae on outer margin; carpus 4/5 as long as merus, with a long seta at inner distal angle and 4-5 setae on outer distal angle; propodus as long as merus, with 2 setae on both margin; dactylus with a seta.

Pereopods 4-5 short and similar each other. Pereopod 4 (Fig. 2D): basis stout and 1.8 times as long as wide, with 10-13 setae on both margins; ischium 0.40 times as long as basis, with 13-16 setae on inner margin; merus as long as basis, with 10-12 shorter setae and 3 longer setae at outer distal angle; carpus half the length of merus, with 2 setae at outer margin; propodus short, a little shorter than carpus, with 2 setae on inner margin and 4 setae on outer margin; dactylus with a seta.

Pereopod 5 (Fig. 2E): basis 2.5 times as long as wide, with 9-10 setae on inner margin and 19-20 setae on outer

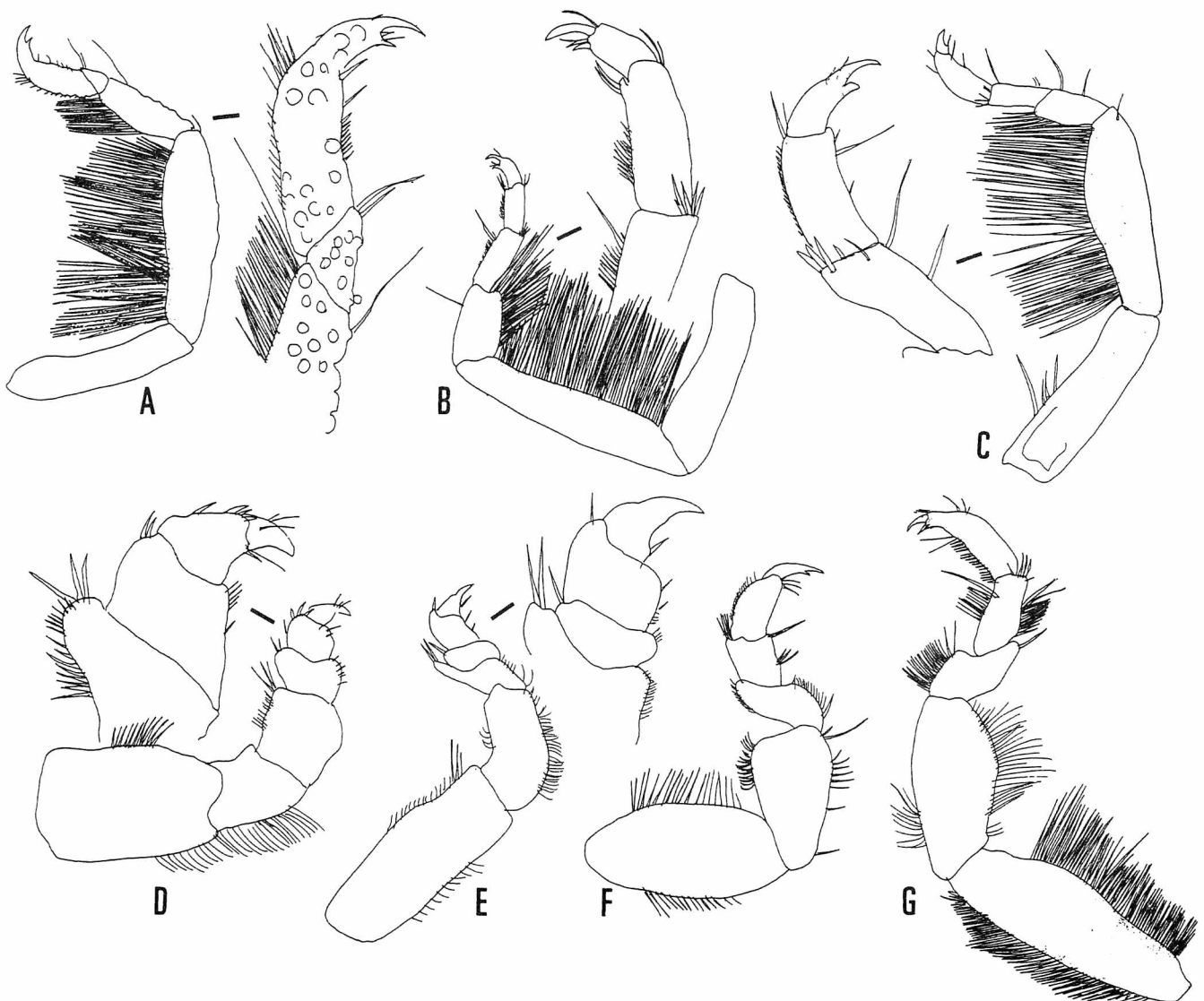


Fig. 2 *Sphaeroma shimantoensis* n. sp.

A-G: Pereopods 1-7 (All: Holotype).

margins; ischium 3/5 as long as basis, with 30-35 setae on outer margin; merus 2/5 as long as ischium but the outer distal area protruded, with 6-7 setae on inner margin and 2 longer setae on outer distal angle; carpus short, with a seta on outer margin; propodus almost as long as merus, with 2-6 setae on inner margin and a seta on outer distal angle; dactylus stout, with a seta at outer distal angle.

Pereopod 6 (Fig. 2F): basis 2.3 times as long as wide, with 15-17 setae on inner margin and 17-18 setae on outer margins; ischium a little shorter than basis, with 10-11 setae on inner margin and 13-15 setae on outer margin; merus triangular, with 16-18 setae on inner margin and 13-16 setae on outer margins; carpus as long as merus, with 4 setae including a longer distal one, 5-6 setae at outer distal area; propodus a little longer than carpus, with 3 setae on inner margin and 17-18 setae on outer margin; dactylus with a seta.

Pereopod 7 (Fig. 2G) longer than pereopod 6: basis 3.0 times as long as wide, with many long setae on both margins; ischium 7/10 as long as basis, with 10-14 setae on inner margin and many long setae on outer margin; merus short, 1/3 as long as ischium, with 20-25 setae on inner margin and a seta on outer distal angle; carpus 1.6 times longer than merus, with 10 setae including a long one on inner margin, 10-13 setae on outer margin and 6-7 setae at outer distal angle; propodus as long as merus, with 17-20 relatively short setae on inner margin; dactylus with a seta.

Pleopod 1 (Fig. 1J): basis short and rectangular; endopod triangular; exopod rectangular, with more than 40 setae around the margin. Pleopod 2 (Fig. 1K): basis short and rectangular; endopod triangular; exopod rectangular, with 40-42 plumose setae. Pleopod 3 (Fig. 1L): endopod semicircular, with 10 plumose setae; exopod rectangular, with 37-39 plumose setae around the margin. Pleopod 4 (Fig. 1M): endopod with thickened, with transverse structures; exopod broad with a transverse line. Pleopod 5 (Fig. 1N and O): endopod with thickened, with transverse structures; exopod rectangular. Uropod (Fig. 1P) extending beyond the posterior end of pleotelson: basis rectangular; endopod elongated lanceolate, with indistinct 6-8 shallow concavities on outer margin and many long hair around the margin; exopod 1.3 times longer than endopod, with many hair around the margin.

Male unknown.

Etymology: The species name is derived from the name of type locality.

Remarks: *Sphaeroma shimatoensis*, collected from the estuary of the river Shimanto, Kochi Prefecture, Shikoku Island, Southern Japan, was described as new to science. It is most closely to *S. sieboldii*, but it is separated from *S. sieboldii* in the following features: (1) absence of teeth on the outside of uropodal exopod, (2) numerous teeth on the outer lobe of maxillula, (3) much smaller lacinia mobilis of mandible, (4) less numerous setae on the mandibular palp, (5) numerous setae on maxillipedal endite, (6) lack of suture lines on pleonal somite; (7) less numerous flagellar segments of antennule, (8) less numerous flagellar segments of antenna, (9) numerous setae on dorsal surface, (10) shorter setae on outer margin of propodus of pereopods 2-4, and (11) darker body color.

Material examined: 2 ♀♀ (1 ♀ holotype, 10.9mm in length and 1 ♀ paratype, 11.3mm in body length), Near the mouth of the River Shimanto, Nakamura City, Kochi Prefecture, July 12, 2002. coll. Keiji Wada, Miki Kuroda and Tetsuya Watabe. and 7 ♀♀ (paratypes, 6.4-10.5mm in length), Mouth of The River Shimanto, Nakamura City, Kochi Prefecture, July 12, 2002. coll. Keiji Wada, Miki Kuroda and Tetsuya Watabe.

Type series is deposited as follows: holotype (TOYA Cr-12958), and 4 paratypes (TOYA Cr-12959~12960), at the Toyama Science, 2 paratypes (OMNH Ar-5897~5898) at the Osaka Museum of Natural History and 2 paratypes (NAMT Cr-15164) at the National Science Museum, Tokyo.

References

- Dollfus, 1889. Sur quelques Isopodes de musee de Leyde. Leyden, *Rijks Museum van natuurlike historie*, Notos, 11:91-94.
- Nunomura, N. (1994a): A new rock boring isopod crustacean belonging to the genus *Sphaeroma* collected from Tanabe Bay, Kii Peninsula, Middle Japan. *Bull. Toyama Sci. Mus.*, 17: 1-5.
- Shiino, S. M. (1957): The marine wood-boring crustaceans of Japan II (Sphaeromatidae and Cheluridae). *Was. J. Biol.*, 15 (2): 161-197.